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Research and Sponsored Programs Office (RSPO)

Sponsored Research Annual Reports

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2005

# Sponsored Programs Research / Fiscal Year Annual Report 2005

Monterey, California: Naval Postgraduate School.

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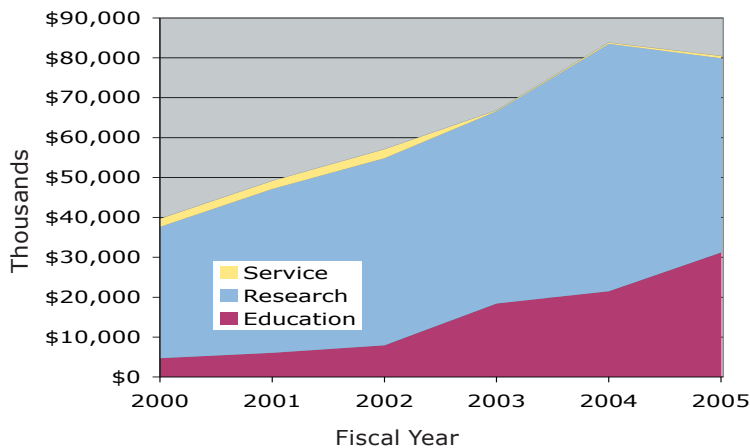
# SPONSORED PROGRAMS ANNUAL REPORT

Naval Postgraduate School • Fiscal Year 2005

## PROGRAM OVERVIEW

The Naval Postgraduate School has a strong sponsored program that has grown steadily to provide the faculty and staff required for a strong, viable graduate school. In FY05, NPS had available over \$111M in sponsored program funding. Total expenditures in FY05 exceeded \$80M.

**Sponsored Program Profile FY 2000-2005**



Sponsored programs (research, education, and services) are integral to the Naval Postgraduate School (NPS) mission. The research program supports graduate education by providing militarily relevant thesis topics that address issues from the current needs of the Fleet and Joint Forces to the science and technology required to sustain long-term superiority of the Navy/DoD. Research varies from the very fundamental to the very applied, at all levels of classification. Sponsored research includes:

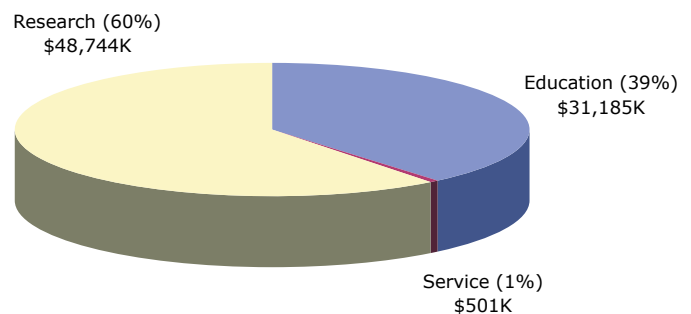
- Basic and Applied Research
- Individual and Interdisciplinary Group Projects
- Fleet Support
- Cooperative Research and Development Agreements with Industry
- Small Business Innovative Research

Integrated graduate education and research in space systems, total-ship systems engineering, combat systems, systems engineering and homeland security and defense, supplemented by off-campus graduate and certificate programs and short courses, are a few offerings of the sponsored education program.

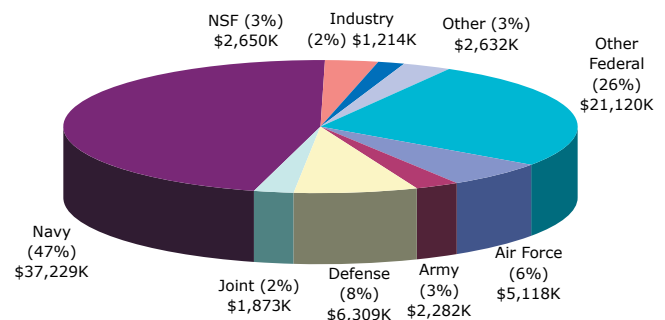
## PROGRAM EXPENDITURES

**1 October 2004 - 30 September 2005**  
**Total Expenditures: \$80.4M**

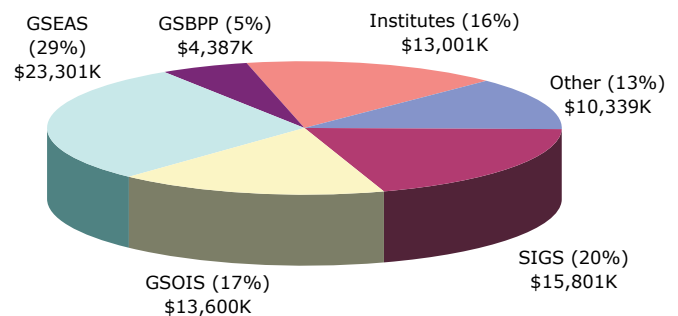
By Type of Activity \_\_\_\_\_



By Sponsor \_\_\_\_\_



By NPS Organization \_\_\_\_\_



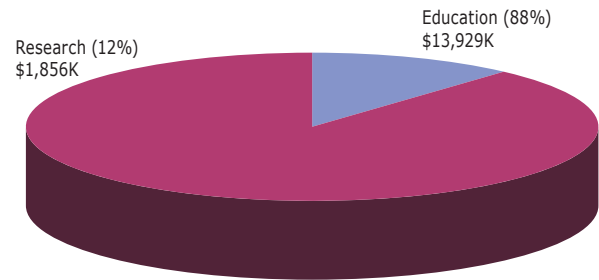
## SCHOOL OF INTERNATIONAL GRADUATE STUDIES

SIGS provides graduate-level education, studies, and research to U.S. and international students supporting joint and combined objectives. Established in 2001, SIGS' mission is to educate the next generation of U.S. and international leaders and to equip them with new approaches, new insights, and new problem-solving tools that could be immediately applied to their current or future jobs in defense/foreign-policy areas.

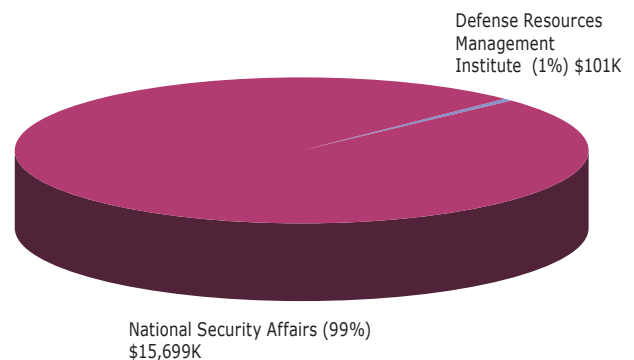
SIGS' organizational elements include the Department of National Security Affairs (NSA), Center for Civil-Military Relations (CCMR), Defense Resources Management Institute (DRMI), Center for Homeland Defense and Security (CHDS) and the International Graduate Programs Office (IGPO). CCMR also includes the Center for Stabilization and Reconstruction Studies (CSRS). Statistics are included for NSA and CHDS only.

**Total Expenditures: \$15,785K**

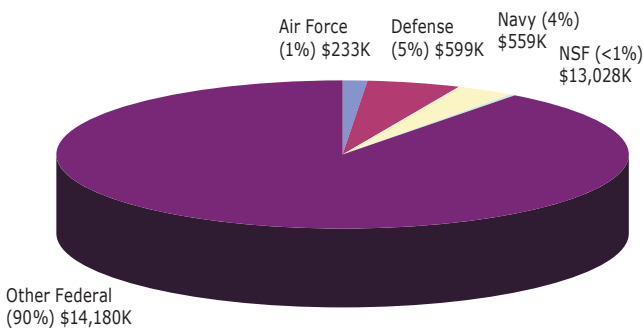
By Type of Activity



By Department



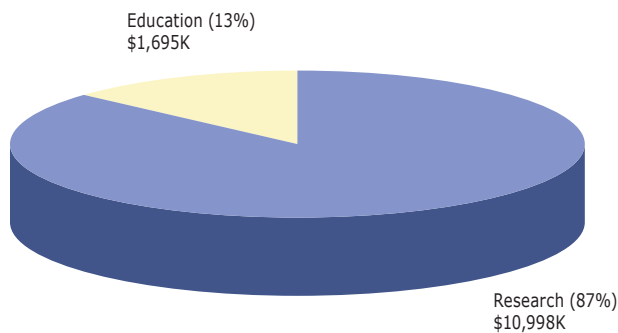
By Sponsor



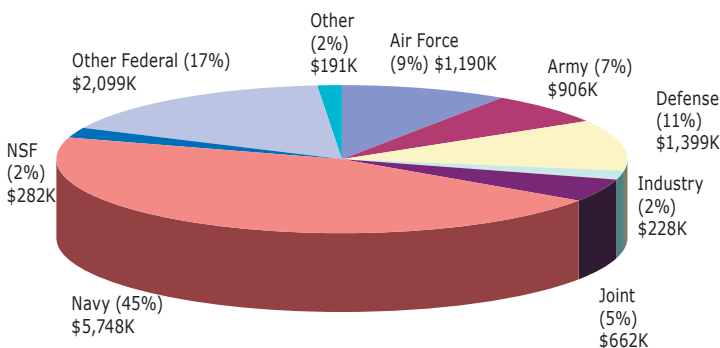
## GRADUATE SCHOOL OF OPERATIONAL AND INFORMATION SCIENCES

**Total Expenditures: \$12,709K**

By Type of Activity



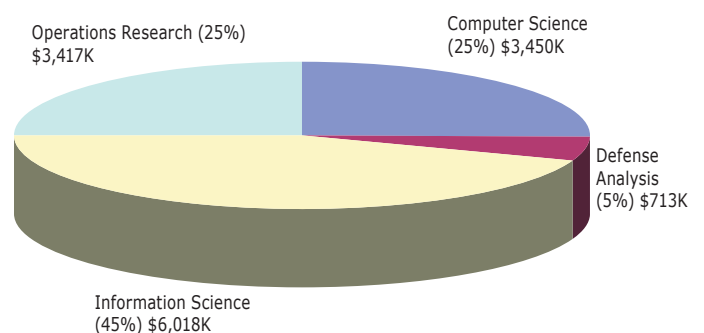
By Sponsor



GSOIS includes graduate resident programs consisting of sixteen technical curricula and awards masters of science and Ph.D. degrees across four academic departments. In response to the needs of naval and military customers, graduate-level education and cutting-edge research are focused in four non-traditional knowledge domains: information science and technology; military computer science; military operations analysis and research; and special operations and related defense analyses.

The emphasis of sponsored activities is on mathematical, scientific, and technical skills needed to understand the state of the art and foster future improvements in military systems and operations, integration of subject matter contained in classical academic disciplines in militarily relevant ways, and subject matter suited to the corporate university's military customer.

By Department

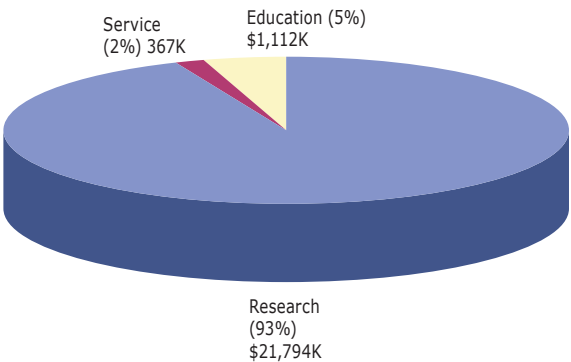


# GRADUATE SCHOOL OF ENGINEERING AND APPLIED SCIENCES

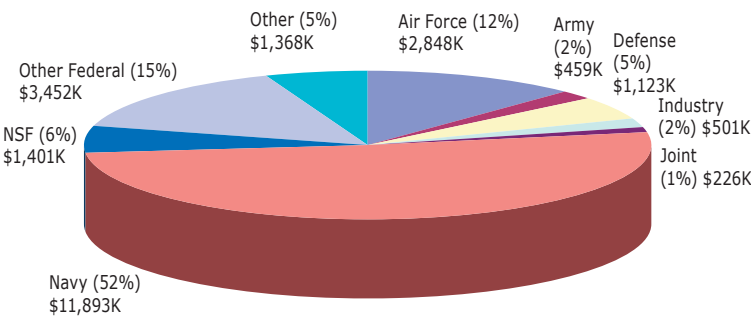
GSEAS provides graduate education leading to the master of science, engineer, doctor of philosophy, and doctor of engineering degrees. GSEAS is composed of seven technical academic departments (applied mathematics, electrical and computer engineering, mechanical and astronautical engineering, meteorology, physics, oceanography, systems engineering) and one interdisciplinary academic group (space systems). These entities offer degree programs tailored to the specific needs of the Navy and defense community at large, at the same time providing the technical foundation for student theses and interdisciplinary projects of faculty and students. Research centers and unique laboratory facilities (e.g., the Spacecraft Research and Design Lab, Rockets and Combustion Lab, Signal Enhancement Lab, Ocean Acoustics Observatory, Interactive Digital Environment Analysis Lab, Secure Space-Systems Research Lab, Secure Computer-Network Research Lab, and Directed Energy Lab) add rigor to the resident academic and sponsored programs.

**Total Expenditures: \$23,275K**

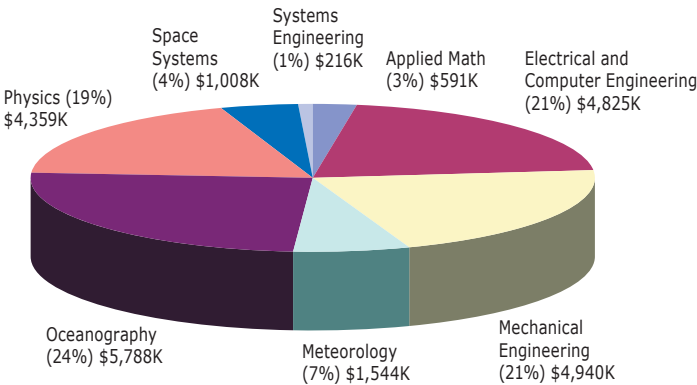
By Type of Activity\_\_\_\_\_



By Sponsor\_\_\_\_\_



By Department\_\_\_\_\_



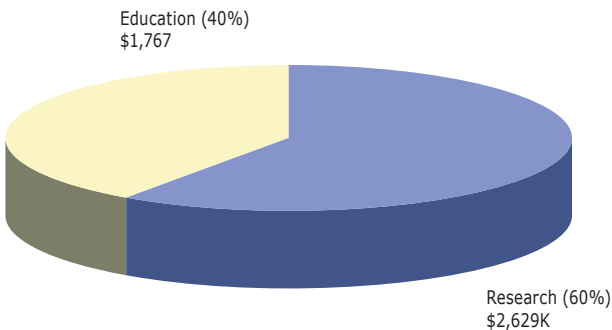
# GRADUATE SCHOOL OF BUSINESS AND PUBLIC POLICY

GSBPP offers a unique resident defense-focused MBA program, plus master's degrees in five other DoD-relevant areas. Faculty research is an important component of the school and strives to support military decision making, problem solving, and policy setting; improve administrative processes and organizational effectiveness; contribute knowledge to academic disciplines; and advance the mission of graduate education. The research program is integrated

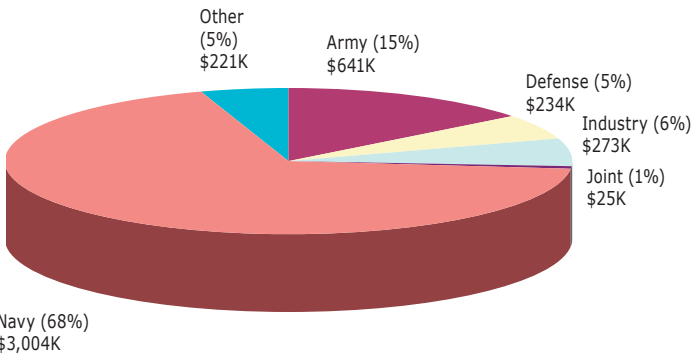
to the greatest possible extent with the educational process. Students are encouraged to participate in faculty projects, and faculty research results are typically incorporated in classroom instruction. Topics and issues can be grouped into five broad functional areas: acquisition and contracting; budgeting and financial management; logistics and transportation; manpower-systems analysis; and policy formulation, analysis, and management.

**Total Expenditures: \$4,397K**

By Type of Activity\_\_\_\_\_



By Sponsor\_\_\_\_\_



## RESEARCH AND EDUCATION INSTITUTES AND CENTERS

The research and education institutes were established to utilize knowledge found in the graduate schools to provide focus for interdisciplinary education and research into current and emerging military challenges. The institutes offer or facilitate degree programs, executive education, continuing education, student interaction with senior naval leadership, and opportunities for student thesis and faculty research ranging from basic to applied. Research centers provide concentrated expertise in a particular area, normally with an emphasis on application. They number over twenty campus-wide. The institutes and centers below report to the Dean of Research.

The Wayne Meyer Institute for Systems Engineering and Analysis provides education and research to increase knowledge and skills of officers and the supporting civilian workforce in systems engineering and analysis and large-scale experimentation.

The Cebrowski Institute for Information Innovation and Superiority sponsors cross-discipline investigations into ways that information processes and technologies can strengthen war-fighting, defense, and national security. Areas of focus include: hastily formed networks, architectures for network centric operations, W2COG, mobile devices and communications, information operations, counterterrorism and irregular warfare, and information assurance and security.

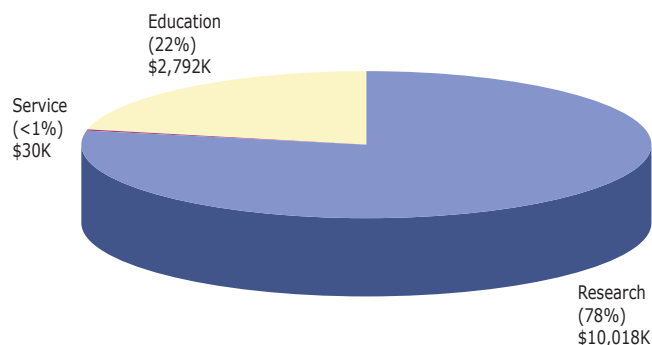
The MOVES Institute investigates modeling, virtual environments, and simulation, with projects in 3D visual simulation, networked VE, computer-generated autonomy, computational cognition, human-performance engineering, immersive technologies, game-based simulation, and combat modeling and analysis.

The Center for Interdisciplinary Remotely Piloted Aircraft Studies (CIRPAS) provides manned aircraft, remotely-piloted aircraft and ground-based radar services for the science, research, test, and evaluation communities. Support includes atmospheric and oceanographic scientific observations, payload integration, flight-safety reviews, logistical planning, and flight support.

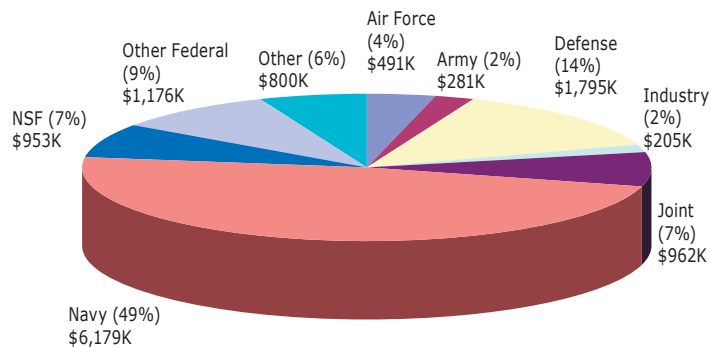
The Center for Defense Technology and Education for the Military Services (CDTEMS) conducts R&D directly increasing the effectiveness of joint and combined operations. CDTEMS supports the Center for Post-Conflict Reconstruction, the USSOCOM-NPS Cooperative Field Experimentation, the Regional Security Education programs, and the Maritime Domain Protection project.

### Total Expenditures: \$12,842K

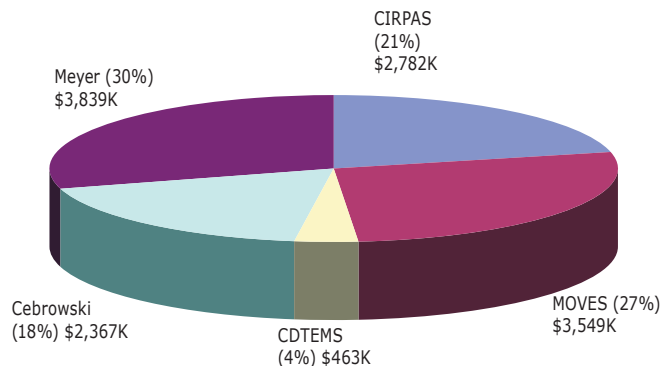
#### By Type of Activity



#### By Sponsor



#### By Institute/Center



## ADDITIONAL RESEARCH FACTS IN FY05

- Twenty-one new Cooperative Research and Development Agreements were executed: United Defense Limited Partnership · Audio Visual Innovations · Scientific Systems Company, Inc · MechMath, LLC · NanoSonic · Inter-4 · Dynamics Research Corporation · Mercury Data Systems · San Jose State University · San Diego State University · San Francisco State University · Purdue University · Spatial Integrated Systems · Think-A-Move · Cyber Defense · Redline Communications · Rajant Corporation · UC Davis · Crossbow Technologies · Lockheed Martin IS&S/S
- Eight-hundred and forty-one degrees were conferred:
 

14 Advanced Degrees (Ph.D., Engineer)	517 Masters of Science
170 Masters of Business Administration	140 Masters of Arts
- Fourteen Space and Naval Warfare Systems Center Fellowships were awarded to NPS students.
- Seventeen National Research Council Research Associates were on tenure at NPS.
- Five visiting faculty members from the Engineer and Scientist Exchange program were hosted.
- One new patent was issued.